PATENT
Attorney Docket No.: 12765

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

McGREGOR et al.

Application No.: 08/749,721

Filed: November 15, 1996

For: MOBILE PHONE WITH INTERNAL ACCOUNTING

Examiner: T. Gesesse

Art Unit: 2746

DECLARATION OF D. SCOTT McGREGOR [37 C.F.R. § 1.132]

BOX AF
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

I, D. Scott McGregor, declare as follows:

1. I am a co-inventor, with my son Greg, of the subject matter disclosed and claimed in the present application. I am submitting this declaration to address whether, from an objective point of view, the subject matter of the present application was "obvious" to those working in the art at the time we made the invention.

2. I started work in the rental cellular telephone field during the 1980's, first with Recom in Salt Lake City and then with Cell West and Celtech. At that time, the cellular telephones that were being rented were the size of a brick and would simply count the number of minutes the phone was in use (i.e., like an odometer). The customer would be

allowed to make an assortment of phone calls while they were renting the phone and would be charged a flat rate for the number of minutes they used the phone plus a daily charge. At Celtech, when the customer returned the cellular phone to the rental office, the customer received a "Call Detail Record" which reflected the total number of calls the customer made (e.g., 3 calls) and the total number of minutes those calls lasted (e.g., 20 minutes). Later on in the late 1980's, this "Call Detail Record" evolved into placing numbers in front of the calls made such as "call one, call two, call three etc."

3. A problem which I recognized with these rental phone systems was that the rental company would have to buy airtime at different rates depending on whether the calls were local, long distance, roaming or international, but could only charge the customer at a flat rate for all types of calls. Thus, if the customer chose to make expensive long distance calls, the rental company would be losing money. Conversely, if the customer chose to make cheap local calls, the customer would arguably be paying too much money for their calls. While I was at Recom and Cell West, I was aware that customers were unhappy about the lack of call details in the final invoices presented to them.

4. Another problem in the cellular telephone field at that time involved obtaining access to cellular telephone service. Payment for telephone calls using a conventional cellular telephone is handled much like a credit card. The cellular telephone carrier, such as Cellular One or GTE, allows their customers to freely use the conventional cellular telephone during the month and then, after collecting information about cellular telephone calls actually made, sends a bill to the customer at the end of the month with a specific list of telephone call charges. This conventional cellular telephone system works on the assumption that the customer is creditworthy and will pay his or her bills at the end of the month. If the customer is not creditworthy, the cellular telephone carrier is left with a potentially large unpaid bill. Because the cellular telephone carrier is extending credit to its customers for a conventional cellular telephone, cellular telephone carriers are cautious about who they will accept as customers and on what terms. Often the cellular telephone carrier will run a credit check after which those applicants who are deemed to constitute an unacceptable credit risk are denied cellular telephone service. I understand from industry publications that

up to 40% of such applicants are rejected. And even for those who pass the credit check, the cellular telephone carrier will typically require the signing of a long term contract.

5. It was to address these types of cellular telephone billing and credit problems that my son, Greg, and I came up with the debit telephone system invention of the present application. We solved the credit problem by creating a cellular telephone where the user would pay in advance for airtime. The payments are reflected in a "debit account" kept internally within the telephone. As calls are made, the debit account is decremented by an appropriate charge. When the account becomes drawn down, it can be replenished by having the user contact the system provider.

6. We solved the billing problem I faced at Recom and Cell West by programming a complex billing algorithm into the cellular telephone. This complex billing algorithm virtually mirrors the factors considered by public switch network providers in charging for airtime. In its preferred form, our complex billing algorithm classifies calls into the categories of local, long distance, roaming and international, selects a charge rate corresponding to that billing category, calculates an appropriate charge based upon that charge rate and subtracts that charge from the debit account in real time. Through use of this complex billing algorithm, we were able to closely match the charges being decremented from the debit account to the system provider's actual cost for airtime. While I was aware that these type of classifications and calculations were being performed by mainframe computers at network switches for conventional cellular phones, I had never heard of anyone trying to put such a complex billing algorithm into the telephone itself. In fact, when I told an acquaintance at Bell Atlantic that I was planning to put this complex billing algorithm into my cellular telephone, he told me that it was "impossible." Well, using the type of call classification techniques described in the specification of my patent application, we were able to actually build and sell telephones that had such a complex billing algorithm programmed into it.

7. Greg and I also designed other features into our debit telephone system which made that system suitable for use nationwide or even worldwide and gave the system provider effective ways to prevent fraud. Many of these features involve the centralized "host processor" of our invention. In the preferred embodiment, our host processor stores identification information for debit telephones in the system and corresponding operating

codes. When a debit telephone user wants to activate his or her telephone or replenish a drawn down debit account, he or she can call the service center where the host processor is located and provide telephone identification information (e.g., ESN) which is checked by the host processor. If this identification information checks out and entitlement to the operating codes is otherwise established (e.g., with suitable proof of prepayment), the host processor will retrieve the corresponding operating codes and have those provided either to the user or directly to the debit phone. Using this approach, a debit telephone system provider can keep firm control over the operation of phones scattered throughout the world. In my view, this was a vast improvement over what I understand to be the fraud-prone system of one of my contemporaneous competitors where sheets of airtime replenishment codes were printed up and distributed to dealers. Once those sheets were in the hands of the system provider's dealers, the system provider lost all control over how those codes were used.

8. Another important advance of our debit telephone system was using the host processor to assign telephone numbers (MINs) and system identifiers (SIDs) at the time of activation. This advance not only allowed the system provider to keep a working inventory of available MINs but also allowed generic telephones to be sold anywhere in the nation or world without worrying about whether they were being shipped to the right area code. Once purchased, the owner of that generic phone could call the system provider's service center, provide information about where they lived and have the system provider's host processor assign appropriate MINs and SIDs during the activation process.

9. For these reasons, I believe that our invention has solved many long felt needs in the cellular telephone field, overcome the failure of others and defied the conventional wisdom of the day.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: August 8, 2000

D. Scott McGregor